查询RP03-2405DD供应商

Features

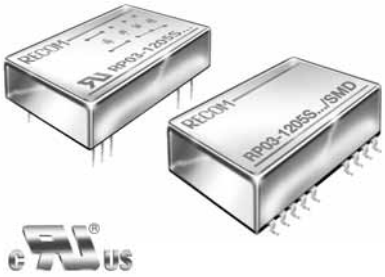
Regulated Converters

- 4:1 Wide Input Voltage Range
- 3 Watts Regulated Output Power
- 1.6kVDC Isolation
- Over Current Protection Continuous
- Low Profile, 10.2 mm Height
- No other Components required
- Five-Sided EMI Shield
- International Safety Standard Approvals
- Standard DIP24 and SMD-Pinning
- 2 Year Warranty
- No Derating to 71°C
- UL 1950 Component Recognized
- Efficiency to 78%

POWERLINE
DC/DC-Converter

RP03-S_DD Series

3 Watt DIP24 & SMD, Single & Dual Output



RECOM

Selection Guide 12V, 24V and 48V Input Types

Part Number	Input Range	Output Voltage	Output Current	Input [4] Current	Efficiency[5]	Capacitive[6] Load max.
DIP24 (SMD)	VDC	VDC	mA	mA	%	µF
RP03-2405SD**	9-36	5	500	147	75	1000
RP03-2412SD**	9-36	12	250	169	78	170
RP03-2415SD**	9-36	15	200	169	78	110
RP03-4805SD**	18-75	5	500	74	75	1000
RP03-4812SD**	18-75	12	250	85	78	170
RP03-4815SD**	18-75	15	200	86	77	110
RP03-2405DD**	9-36	±5	±250	149	74	±550
RP03-2412DD**	9-36	±12	±125	172	77	±96
RP03-2415DD**	9-36	±15	±100	172	77	±47
RP03-4805DD**	18-75	±5	±250	75	74	±550
RP03-4812DD**	18-75	±12	±125	86	77	±96
RP03-4815DD**	18-75	±15	±100	85	78	±47

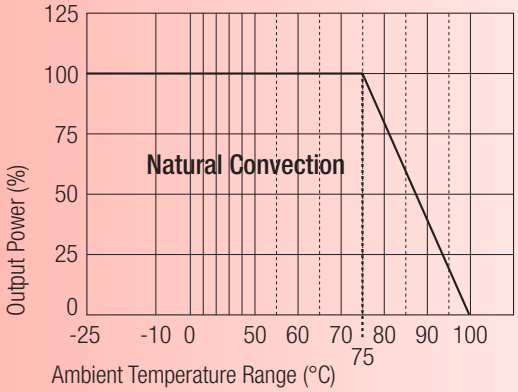
** add Suffix SMD for SMD package

Description

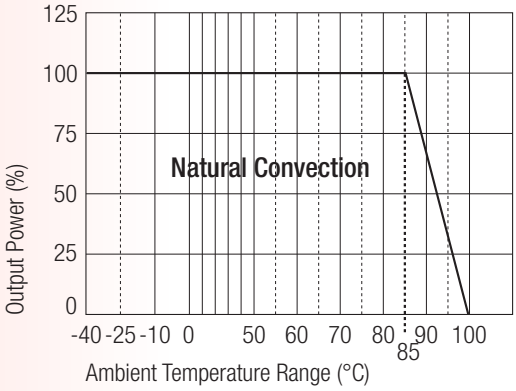
The D-Series of DC/DC Converters are fully certified to EN 60950: 2000.
This makes them ideal for all Telecom and safety applications where approved isolation is required.
They also meet UL 1950 and CSA 950 standards [10].

Derating-Graph (Ambient Temperature)

RP03-4805SD



RP03-4805SD/M1



Derating graphes are valid only for the shown part numbers. If you need detailed derating-information about a part-number not shown here please contact our technical customer service at info@recom-development.at

Specifications (typical at nominal input and 25°C unless otherwise noted)

Input Voltage Range	24V nominal input	9-36VDC
	48V nominal input	18-75VDC
Input Filter		Pi Type
Input Surge Voltage (100 ms max.)	24V Input	50VDC
	48V Input	100VDC
Input Reflected Ripple (nominal Vin and full load)		20mAp-p
Start Up Time (nominal Vin and constant resistor load)		350ms typ.
Remote ON/OFF (see note 8)	DC-DC ON	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
Remote OFF input current	Nominal input	2.5mA
Output Power		3W max.
Output Voltage Accuracy (full Load and nominal Vin)		±2%
Minimum Load (see Note 1)		10% of FL
Line Regulation (LL-HL at full load)		±0.2%
Load Regulation (25% to 100% FL)	Single	±0.2%
	Dual	±1%
Cross Regulation (asymmetrical load 25%/100% FL)		±5%
Ripple and Noise (20MHz bandwith)		50mVp-p
Temperature Coefficient		±0.02%/°C, max.
Transient Response (25% load step change)		200µS
Over Load Protection (% of full load at nominal Vin)		180% typ
Short Circuit Protection		Continuous, automatic recovery

continued on next page

RP03-S_DD Series

Specifications (typical at nominal input and 25°C unless otherwise noted)

Efficiency		see „Selection Guide“ table
Isolation Voltage	In to out	1.600VDC min.
	I/O to case	DIP type 1.600VDC min.
	I/O to case	SMD type 1.000VDC min.
Isolation Resistance		10^9 Ω min.
Isolation Capacitance		300pF max.
Operating Frequency		300kHz typ.
Approved to Safety Standards		UL 1950, EN60950
Operating Temperature Range	Standard	-25°C to +85°C (with derating)
	M1 (see note 3)	-40°C to +85°C (non-derating)
Maximum Case Temperature		+100°C
Storage Temperature Range		-55°C to +105°C
Thermal Impedance	Natural convection	20°C/Watt
Thermal Shock		MIL-STD-810D
Vibration		10-55Hz, 2G, 30 Min. along X, Y and Z
Relative Humidity		5% to 95% RH
Case Material		Nickel-Coated copper
Base Material		Non-conductive black plastic
Potting Material		Epoxy (UL94-V0)
Conducted Emissions	EN55022	Level A
Radiated Emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria 2
Radiated Immunity	EN61000-4-3	Perf. Criteria 2
Fast Transient	EN61000-4-4	Perf. Criteria 2
Surge	EN61000-4-5	Perf. Criteria 2
Conducted Immunity	EN61000-4-6	Perf. Criteria 2
Weight	DIP	16g
	SMD	18g
Dimensions	DIP	31.8 x 20.3 x 10.2mm
	SMD	32.0 x 20.3 x 10.9mm
MTBF (see note 2)		2.941 x 10^6 Hours

Notes :

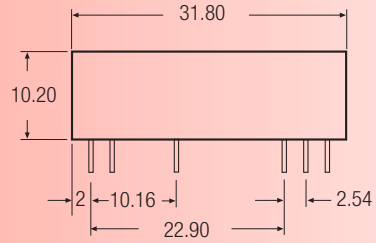
1. The RP03 series requires a minimum of 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C (Ground fixed and controlled environment).
3. M1 version is more efficient, therefore, it can be operated in a more extensive temperature range than standard version.
4. Maximum value at nominal input voltage and full load of standard type.
5. Typical value at nominal input voltage and full load.
6. Test by minimum Vin and constant resistor load.
7. Start up voltage : 10VDC
8. The ON/OFF control pin voltage is referenced to negative inpit.
9. See application notes for EMI-filtering.
10. The M1 version (RP03-xxxxSD-M1 / RP03-xxxxDD-M1) do not carry the UL certification.

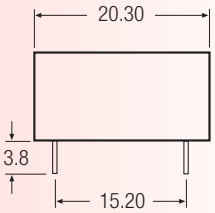
RP03-S_DD Series

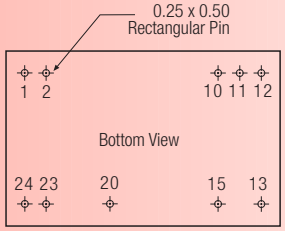
Package Style and Pinning (mm)

DIP24 Package Style

3rd angle projection







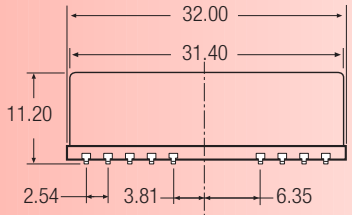
Pin Connections

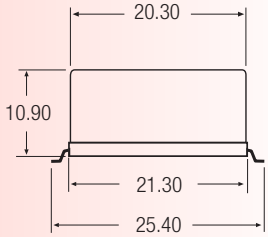
Pin #	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	NC	Common
11	NC	Common
12	-Vout	NC
13	+Vout	-Vout
15	NC	+Vout
20	Ctrl	Ctrl
23	-Vin	-Vin
24	-Vin	-Vin

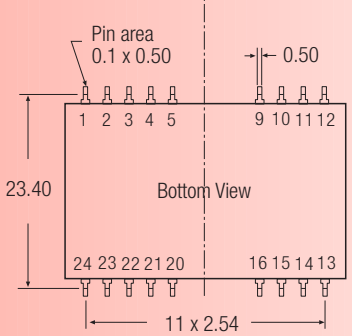
NC = No Connection
Ctrl = Remote On/Off Control

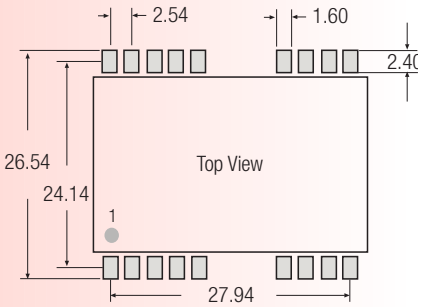
Pin Pitch Tolerance ±0.35 mm

SMD Package Style









SMD Package Style
Same spec. as the original DIP spec. and pin definition, excl. of the SMD type pin.

Pin Connections

Pin #	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	NC	Common
11	NC	Common
12	-Vout	NC
13	+Vout	-Vout
15	NC	+Vout
20	Ctrl	Ctrl
23	-Vin	-Vin
24	-Vin	-Vin
Others	NC	NC

NC = No Connection
Ctrl = Remote On/Off Control

Pin Pitch Tolerance ±0.35 mm

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